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I know that all this means nothing to you. I have not said it with any expectation of convincing you. It is all waived aside by the philosophical principles with which you set out. I have merely wished to justify myself from my own point of view, and to show that I can consistently believe that the Bible is the revealed word of God, and as such is of untold importance to every living man.

W. HENRY GREEN.

The Pines, Caldwell, Lake George, N. Y., Sept. 18, '99.

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[This letter, which is a terse delineation of the old orthodox position, written by the most representative thinker of the Presbyterian Church in this country, sums up the traditional conception of the doctrine of inspiration in such a lucid and forcible form, and is at the same time pervaded by such a firm spirit of conviction, as to merit the consideration of all who wish to weigh both sides of the problem. It was written as a private communication, but the editor asked for and received permission to publish it in the columns of *The Monist* as a reply to the editorial article of the October number. Professor Green, however, wishes it distinctly understood that it does not contain the full argument which can be made for his attitude in the momentous question at issue. He does not undertake in these lines either to defend his own, or to refute the opposing, views of others, but is satisfied with a simple statement of his position.]

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#### POTENTIAL THINGS.

In *The Monist* for January 1892, Dr. Paul Carus the Editor discusses the subject: "Are There Things In Themselves?" In the course of his arguments he refers to "potential existence and latent qualities," which he says "are fertile and useful ideas but we must beware not to employ them incorrectly."

But the fact is he has himself employed the term potential incorrectly, or in a manner that is misleading; and this has suggested the following criticism, and given rise to the remarks made and the arguments advanced on the subject of "Potential Things."

#### DEFECTIVE LOGIC.

The Doctor says: "We might express ourselves to the effect that the egg contains the potential existence of feathers, but with the same logic we might say the egg contains a potential chicken broth."

The defect in this statement consists in the misuse of the word potential. This word has definite meaning, as unmistakable as any word in the English language. But as here used it is wrested from its true and primary meaning and is employed in its secondary and broad sense which is ambiguous. It is here used as a synonym to and in the place of the word possible.

We correctly say the egg contains a *possible* chicken broth, when we refer to the fact that the egg contains the power of transforming and growing into a chicken, which may then be made into a broth. This is a possibility, i. e., it is possible that a chicken broth is the outcome of the egg. But the word potential cannot be used correctly in this connection.

In like manner when the Doctor says : the egg contains the potential existence of feathers, he refers to the possible outcome of the egg ; to its being changed, possibly, into a chick, on which feathers will then grow and exist. He does not refer to the fact that the potency to grow the feathers on the chick is contained in the egg from which it was hatched. This is the real point at issue. Are there potential things ? Does the egg which is changed into a chick contain potential feathers ?

Now the word potential relates to potence and not to substance ; to the formative force, not to the thing being formed. Things in a potential state consist in certain combinations of forces capable, under proper conditions, to give definite forms to substances. And "according to the law of transformation and equivalence of energy" the human mind is forced to conclude that, every thing that appears in the transformed and actual state of a thing must have had its equivalent in the former, or potential, state from which it was transformed. Therefore, as the chick is but the transformed state of the egg the conclusion that the feathers on the chick had their corresponding equivalence in the forces of the organic constitution of the egg, cannot be avoided. The mind persists in asserting that the power, at the proper stage in the orderly process of transformation and growth, to change certain constituents of the blood of the chick into feathers *inheres* in the egg, since it is a self-evident fact. We therefore make good, sound logic, as well as state a fact in nature when we say : the feathers of the chick are potentially contained in the egg, which is equivalent to saying : the egg contains potential feathers. But when we now apply this logic to the other case and say : A chicken broth is potentially contained in the egg, we shall, by analysis, see the fallacy.

#### NO POWER IN THE EGG TO MAKE A BROTH.

In the first case we find that the power to form and produce feathers on the chick is, in a latent condition, inherent in the egg. This power is not added to the chick from without after it developed from the egg, but it is a quality inherent in the constitution of the egg. But in the other case we find no inherent power to make the chicken into a broth. A broth can be made of a chicken, but the efficiency to make it is not contained in the chicken much less in the egg from which it is hatched. The chicken is a specialised substance which may be made into a particular broth, but the power to make the broth resides in the mind and will of the cook. We might say, the broth is potentially in the cook's brain after he has conceived the idea and concluded to make it ; and that the chicken is substantially the broth—it being the substance of which the broth is made. For it is an axiom that a thing cannot potentially contain *that* which it has not the inherent power to

produce. Therefore, since the skill and power required to make a broth are not contained in the egg, nor in the chicken, but in the ingenious mind of man, it follows conclusively that the egg does not contain a potential chicken broth. But in the first case, it being a fact that the *possibility* of producing the feathers is contained in the egg and the *efficiency* in the full-fledged chick, *but in no outside agent*, —that all the glorious knowledge and inventive genius of mankind cannot produce them, it follows conclusively that the feathers are potentially in the egg. Hence the logical difference between the two statements.

#### IRON ORE NOT A POTENTIAL SWORD.

The same defective logic is contained in the Doctor's statement: "Any heap of iron ore can be called a potential sword." Here again the ambiguous, misleading word potential is employed in the place of the simple and plain word possible. All that can be truthfully said of iron ore relative to its becoming a sword is, that it is substance or material of which swords can be made. We can correctly say of a sword that it was substantially contained in the iron ore, but when we say it was potentially contained therein, we speak falsely.

The iron in the ore has the inherent quality, under proper treatment, to change into steel, but it has not the skill of forming itself in swords; that resides in another agent. And since it is the peculiar form of a piece of steel that makes it a sword, and the power to give it that form we find is contained in the mind of man we can therefore truly say: the sword is potentially in the skilful mind of man, but not in the iron ore. To bring out this point still clearer and more forceful we give the following illustration.

#### THE COLLECTED MATERIAL FOR A HOUSE NOT A POTENTIAL HOUSE.

Mr. Thrifty resolves to build a house. He employs an architect, prepares his plan and gets his drafts. He makes a contract with a builder for the construction of the house. He buys all the materials needed, from the foundation to the finish, and has them conveyed to the place where the house is to be erected. Now we cannot correctly call these collected materials a potential house. Though they comprise all the material needed for the house, and though they are intended to be constructed into a house, yet they are not a potential-house. For it is an axiom that, *For a thing to be a potential something else it must contain the power in itself, as a quality of its own nature, to become or produce that something else.*

Thus a tadpole is a potential frog, because it, and it alone, possesses the power of developing and producing a real frog.

But on the other hand, a heap of stones is not a potential wall, because it does not possess the power, as a quality of its own nature, to form or construct itself into a wall. It is the material of which a wall may be built,—a possible wall—and we may say that a heap of stone is substantially, or in substance, a wall, but when we say it is a potential wall, our statement is absolutely false. Likewise, the collected

material for Mr. Thrifty's house is substantially, or in substance, the house, but it is not a potential house.

Neither should we say that the house is potentially in the mind of the architect. Here we find it ideally. The architect, in his imagination or image-forming faculty, has the power to conceive and form an ideal house in his mind, i. e., *think* a house, and has the skill to transfer it from his mind to paper as a design; but in so doing he does not reduce his ideal house to the real—the materially constructed, finished house. The power to build the house is not contained in the architect's imagination, but in the mind and brain of the skilled mechanics. The mason has the idea of a wall impressed on his mind, and has acquired the skill and power of dressing stones and constructing them into walls. Likewise the carpenter has acquired the skill to do the wood-work; the roofer to make the roof, and the plasterer to plaster the walls etc., and when the painter and the wall-decorator finally appear to give the finishing touch to the house, this is not adding something to the house,—as the Doctor declares that the growing feathers on a chick is adding something to the chick—for the painting and wall-decorating were understood and included—were contained in the contract made by Mr. Thrifty with the builders, in like manner as the power of growing feathers on the chick was included in the persistent forces immanent in the egg.

Thus we observe four aspects of the one object—the house ideally in the mind of the architect; the house potentially in the mind of the skilled mechanics; the house substantially in the solid material of which it is constructed; and the complete, finished house. And these four aspects are present in everything produced or objectised by man: (1) The ideal conception; (2) the mechanical skill and power; (3) the substance or solid material in which to formally express and fix the conceived ideal; (4) the concrete finished object.

#### MORE LOOSE STATEMENTS.

Says the Doctor:

"We may say that the hen's egg contains a potential chick; but this is a mere mode of speech devised to say that the egg can be changed into a chick under certain conditions.

"There is no chick at all contained in the egg, and nothing that is like a chick. The chick is something different in kind from the egg. The unity of the egg-cell organism in the yolk is radically different from the unity of the full-fledged chick."

Now we ask are these things so, or are they mere assertions based on surface observations? Taking up the last statement we inquire: Is the unity of the egg-cell organism radically different from the unity of the full-fledged chick? The word radically is here used in its broad sense. Primarily it relates to radix or root, and in this sense it follows logically that, for a thing to be radically different from another thing the two must necessarily rise or grow from different roots or primaries. But is such the case here? Are the organic forces that produce the egg-cell organ-

ism and hold it in its unity not the same persistent forces that subsequently organise the chick and hold it in its full-fledged unity? Botany teaches that the plant is epitomised in its leaves. Now in this case, is the unity of the leaf radically different from the unity of the plant? Is it not a fact, that the unity of the leaf is a miniature expression of the unity of the plant? In the case of the chick the unity of its parents was epitomised in the egg and how can there be a radical difference between the unity of their several organic forms? Is the unity of the rays of light in the focal point different from that in the more diffused rays where they pass through the focalising lens? No; the unity of the concentrated forces in the egg-cell organism is not destroyed in the process of transformation of the contents of the egg, but is kept inviolate and is now expressed in the chick. The persistent organic forces of the egg-cell have simply diffused themselves in the chick and thereby extended their scope of action.

#### THE EGG THE SAME IN KIND AS THE CHICK.

The Doctor says: "The chick is something different in kind from the egg." Yes on their surface, in their physical expression, but not in their essential, or organic nature. The chick contains no organic forces that are different in their nature from those contained in the egg from which it was hatched. The difference cannot be in kind; it is merely in degree of physical expression. The nature of the persistent forces inherent in the egg-cell remains unchanged and continuous throughout the vital process from conception to dissolution. The chick is but the reincarnated expression—through the medium of the egg—of the persistent forces of its parents. In detail these several expressions may vary but not in organic constitution. Concentration (the egg) and diffusion—the organised structure arising from the egg; formation and transformation is the observed order of Nature.

The "formation of the chicken soul" is not "a new formation," as the Doctor says, in the sense that something has been "breathed" into it from without, or has been superadded to it, that is different in its nature from that which was primarily contained in the egg. It is merely the higher outgrowth of the inherent forces of the egg-cell, as the flowers and fruit on a tree are the higher out-growth of the inherent organic forces—the latent qualities of the tree. And in this case it is clear that, though the tree existed for years, bringing forth leaves and forming wood etc. but no flowers and fruit appeared, yet the power to produce the latter, at the proper stage of growth, was contained in the seed from which the tree grew. There is no power added to the tree from without to produce this higher or highest growth, but the tree preceding this one, on which the seed was formed, had such power. This was transmitted to the seed and now manifests itself on the succeeding tree as it had done on the preceding one. Just so with the chick. The parent birds that produced the egg had the quality of forming "the chicken-soul,"—as the Doctor expresses it,—and this was transmitted to the egg-cell, and at the proper stage of growth manifests itself in the chick as it had manifested itself in its parents. This

quality of soul-formation, is not "breathed" into the chick from without, by some extraneous soul force, but is inherent in the constitution of the egg-cell. The organic forces in the egg are the same in kind as those in the chick and in its parents.

#### SOMETHING LIKE A CHICK IN THE EGG.

That there is no organised, material chick in the unhatched fertilised egg is a fact; but to say that the egg contains "nothing that is like a chick," is an unwarranted assertion.

The adage is "like begets like," but if nothing is contained in a hen's egg that is like a chick, it is evident that nothing that is like a chick could come out of it.

We might say that a serpent's egg contains nothing that is like a chick; which is a fact. And for that very reason it cannot be changed into a chick. But inasmuch as the hen's egg, in its organic constitution, contains the inherited nature and qualities of the parent birds that produced it, it follows naturally and conclusively that it contains something that is chicken-like; and the proof of it is, it manifests the power of transforming the egg into an actual chick. In what the likeness consists, this is not now demonstrable, neither is it the point at issue.

#### THE HEN'S EGG CONTAINS A POTENTIAL CHICK.

To say "the hen's egg contains a potential chick," the Doctor asserts, "is a mere mode of speech devised to say that the egg can be changed into a chick under certain conditions." Here he would lead the reader from the true use of the word potential. The fact that a piece of cloth can be formed into a coat does not make the cloth a potential coat. It is in substance the coat, but the skill of making a coat is not contained in the cloth, it cannot form itself into a coat. It lacks this the necessary inherency which constitutes one thing a potential something else. In the case before us, however, the power of changing the egg into a chick is inherent in the organic constitution of the egg, and it is this *inherency* that constitutes it a potential chick.

Again, when we say the silk-worm is a potential moth or imago we state a fact, for the efficiency of changing into a moth is a quality of the nature of the silk-worm itself. But when we say the leaves which the silk-worm eats and converts into silk, *they* are potential silk, then we speak falsely. The leaves are in substance the silk, but the power of changing them into silk is inherent in the silk-worm, and therefore the silk is potentially in the worm.

Now, when we view an egg in the light of modern science we find it composed of two distinct realms or fields of activity in the process of its being transformed into a chick: namely, a formative field and a nutritive field. The former is positive or active, the latter is passive and reactive. The former is the field of nuclear substance in which the organising potency resides; the latter is the field of somatic or body plasma, the substance or material which is to be constructed into the physical body of the chick. According to Professor Weismann, the nuclear field is the

realm of real life, and the "body or soma is a subsidiary appendage," a "deciduous growth which arises round about the real links of life."

Thus in the realm of real life the chick is potential, and in the subsidiary realm or body life it becomes phenomenal or active, and these two realms are included in the constitution of the egg. In the nuclear substance or realm of real life the chick is in some way perfectly formed. This may seem inconceivable, yet it remains a fact. Preformation, in some way or other, demands our recognition. And it is in perfect agreement with the logic of the expression: The egg contains a potential chick.

When we predicate of a thing that it *contains* something, we have *two* distinct ideas in our mind. As when we say the bottle contains wine. Here the bottle is one idea, and wine is the other idea. Just so when we say the egg contains a potential chick. Here, however, we do not refer to the egg-shell and its contents, as in the case of the bottle and its contents—the wine. No; here the concrete egg with its body plasma and nutritive potency constitute one idea; and the formative potency and organising efficiency—that *unity* of organic forces which is capable of transforming the contents of the egg into a chick, inherent in the nuclear substance of the egg-cell in the yolk, constitute the other idea. The concrete egg contains an abstract and unknown quantity. And when we reduce this supersensuous, unknown quantity to a physical expression—not by any rules of mathematics but by gentle heat in an incubator or under a hen—we find it equals a chick. Hence the unknown quantity inherent in the egg being equal to a chick, our conclusion that the hen's egg contains a potential chick is correct.

DANIEL BRIGHT.

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#### EDITORIAL REPLY.

Criticism is always welcome, and since Mr. Daniel Bright has discovered "defective logic" in an article of mine entitled "Are there things in themselves?" I take pleasure in publishing his arguments and will answer them as briefly as the complicated problem will permit.

In the article referred to I deny the existence of "Things in themselves" if the term be taken in its rigid meaning.

The "thing" is constituted by a definite form, using the word "form" in its evident significance. A chair is a seat with legs and a back serving the purpose of sitting. The form of the chair is the "chair in itself," if that term has any meaning at all. There is not an unknowable "chair in itself" of metaphysical existence which germ-like exists as a power, or a force, or a potency in the material that is being turned into a chair by the skill of a carpenter.

Accordingly, we may say, there are "forms in themselves," but not "things in themselves." In-itselfness, or absoluteness, is not any thing substantial but purely formal. Those eternal uniformities which are classified by scientists as laws of